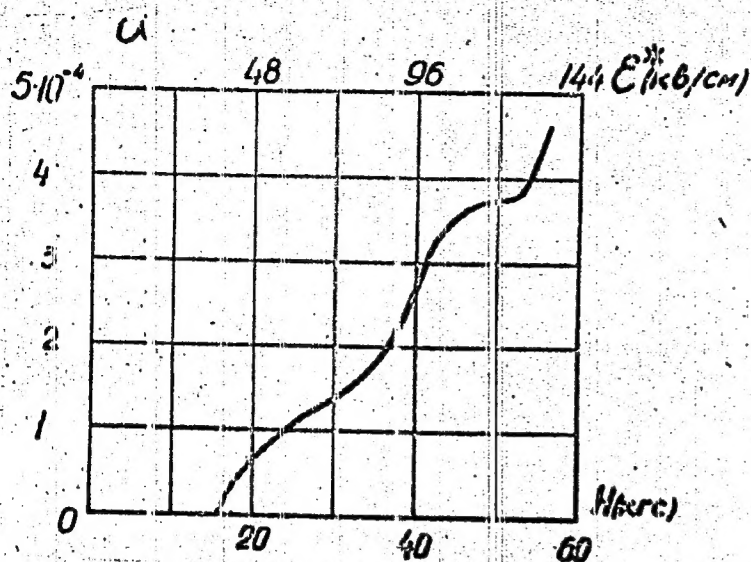


L 8318-61

ACC NR: A15022296



data lead the authors to conclude that at lower magnetic fields (in the range 32-51 kg) the atoms with the principal quantum number  $n = 9$  are ionized predominantly. At higher values of the magnetic field, atoms with  $n = 8$  are also ionized and the fraction of ionized atoms begins to increase rapidly. This work agrees with the measurements of the fraction of the hydrogen atoms which are ionized in other reported experiments. Orig. art. has: 3 figures.

Fig. 1.

SUB CODE: 20/

SUBM DATE: 00/

ORIG REF: 004/

OTH REF: 005

Card 2/2

L 8196-66	EWT(1)/EWT(11)/EPE(1) 1-2/FWT(1)/FWA(1)/FWD(1)/FWD(1)/FOS(1)/FWE(h)/ENA(1)		
ACC NR:	AT5022295	1JP(1)	SD 44, 55
			SOURCE CODE: UR/3137/64/000/053/0001/0004
AUTHOR:	Yufarov, V. B.; Kovalenko, V. A.; Skibenko, Ye. I.; Busol, F. I.	44, 55	44, 55
ORG:	Academy of Sciences UkrSSR, Physicotechnical Institute (Akademiya nauk UkrSSR, Fiziko-tekhnicheskii institut)	44, 55	75
TITLE:	Supersonic hydrogen stream in a vacuum		
SOURCE:	AN UkrSSR. Fiziko-tekhnicheskii institut. Doklady, no. 053/P-012, 1964. Sverkhzvukovaya struya vodoroda v vakuume, 1-4		
TOPIC TAGS:	supersonic flow, particle beam, hydrogen plasma, plasma heating		
<p>ABSTRACT: A brief discussion of the need for and means of producing supersonic hydrogen stream by means of new <u>cyrogenic techniques</u> is presented. The apparatus and experimental conditions are described in earlier papers by the authors. The critical problem is the amount of heat transfer from the gas to the helium-cooled walls of the channel; it is one order higher than that measured in other experiments with argon and CO<sub>2</sub>. It was found that the pressure in the flow was not determined by the flow conditions alone but also by the large temperature difference between liquid helium and the surfaces in contact with the stream. These supersonic streams can be successfully used for the charge exchange schemes used with intense ion beams needed for neutral injection techniques in the production of hot plasmas. Orig. art. has: 1 figure.</p>			
SUB CODE:	20/	SUBM DATE:	00/
		ORIG REF:	005/
		OTH REF:	001
Card 1/1			

KOVALENKO, V.A., inzh.; YANITS, S.N., inzh.

Results of the field tests of moments acting on the blades of the  
gate apparatus of a reversible-blade hydraulic turbine. Energomashino-  
stroenie 10 no.8:12-14 Ag '64. (MIRA 17:11)

ARONSON, A.Ya., kand. tekhn. nauk; KOVALENKO, V.A., inzh.

Study of the vibrational reliability of the runners of the  
hydraulic turbine of the Krasnoyarsk Hydroelectric Power  
Station. [Trudy] DZ no.10:80-95 '64.

(MIRA 18:12)

ARONSON, A.Ya., kand. tekhn. nauk; KOVALENKO, V.A., inzh.; KOVALEVSKAYA,  
M.A., inzh.

Study of the vibration of the runner of a turbine of the  
Bratsk Hydroelectric Power Station. [Trudy] LMZ no.10:  
161-168 '64. (MTR 18:12)

L 8838-66 EWT(1) IJL(c) WW/GS

ACC NR: A15020591

SOURCE CODE: UR/0000/65/000/000/0421/0431

AUTHOR: Barovik, Ye. S.; Busol, F. I.; Kovalenko, V. A.; Yuferov, V. B.; Skibenko, Ye. I.

ORG: none

21,44,55 21,44,55  
TITLE: Magnetic trap with a strong magnetic field

SOURCE: Konferentsiya po fizike plazmy i problemam upravlyayemogo termoyadernogo sinteza. 4th, Kharkov, 1963. Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza (Physics of plasma and problems of controllable thermonuclear synthesis); doklady konferentsii, no. 4. Kiev, Naukova dumka, 1965, 421-431

TOPIC TAGS: strong magnetic field, magnetic trap, plasma injection, liquid nitrogen, liquid hydrogen, magnetic mirror, charge exchange, vacuum pump

ABSTRACT: The design of the magnetic mirror with a very strong magnetic field described in this work is similar to that of other machines which generate hot plasmas by injection of neutral hydrogen atoms. The features of a neutral beam injector, charge exchange cell and beam trap are described. The method of achieving strong magnetic fields necessary in such machines depends on a newly developed technique

Card 1/2

L 2417-66 EWT(1)/EWP(m)/EWT(m)/EPF(c)/EWA(d)/EPA(w)-2/EWP(j)/EWP(t)/FCS(k)/EWP(b)/  
ETC(m)/EWA(1) JP(c) JD/WJ/JN/RM UR/0007/65/035/008/1522/1523  
ACCESSION NR: AP5020744

AUTHOR: Yuferov, V. E.; Kovalenko, V. A.; Skibenko, Ye. I.; Busol, F. I.

80  
78  
B

Title: Supersonic hydrogen jet in a vacuum

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 8, 1965, 1522-1523

TOPIC TAGS: gas jet, supersonic flow, hydrogen, vacuum, particle accelerator target, charge exchange

ABSTRACT: The authors have produced and investigated supersonic hydrogen jets in vacuum, using the same apparatus and techniques that they and collaborators have previously employed to produce and investigate CO<sub>2</sub>, Ar, and N<sub>2</sub> jets (ZhTF, 33, No. 8, 1963; Sb "Fizika plazmy i problemy upravlyayemogo term. ninteza", vol. 3, p. 294. Izd. AN USSR, Kiev, 1963; ZhTF, 34, No. 12, 1964; ZhTF, 33, 100, 1963). The experiments were undertaken because of the usefulness of hydrogen jets as charge exchange targets for producing high energy neutral atom beams for injection into thermonuclear devices. Difficulties arise from the low heat of vaporization of the liquid helium that must be used to remove the hydrogen. With a hydrogen flux of 50 cm<sup>3</sup>/sec, the pressure in the charge exchange chamber was approximately  $7 \times 10^{-5}$  mm Hg. It is believed that by improving the thermal insulation of the condenser it

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L 2187-66

ACCESSION NR: AP8030744

2

will be possible to reach lower pressures with the same fluxes and that the vacuum hydrogen jet can be so developed as to provide a useful charge exchange target. The conclusions derived from the present experiments concerning heat transfer between liquid helium and the walls of its container at different heat fluxes will be discussed in a future paper. "In conclusion, the authors express their gratitude to Professor Y. S. Borovik for valuable advice and discussions."

ASSOCIATION: none

SUBMITTED: 26Oct64

ENCL: 00

SUB CODE: ME

NR RE: SOV: 005

OTHER: 001

*bel*  
Card 2/2



L 24047-66 EWT(1) LJP( ) /CS/AT/CH

ACC NR: AT6008842

SOURCE CODE: UR/0000/65/000/000/0040/0044

AUTHOR: Borovik, Ye. S.; Busol, F. I.; Kovalenko, V. A.; Skibenko, Ye. I.; Yuferov, V. B.

12  
B+1

ORG: none

TITLE: Ionization of fast hydrogen atoms in a strong magnetic field

SOURCE: AN UkrSSR. Magnitnye ловushki (Magnetic traps). Kiev, Naukova dumka, 1965, 40-44

TOPIC TAGS: strong magnetic field, hydrogen plasma, gas ionization, charge exchange, plasma physics, atom, fast particle

ABSTRACT: Data are given from preliminary experiments on determining the fraction of  $\alpha$ -hydrogen atoms with an energy of 30 kev ionized by the Lorentz force in a magnetic field with an intensity of up to 60 kev. In contrast to Sweetman's experiments (D. R. Sweetman, Nuclear Fusion Suppl. 1962, part 1, p 279) where the quantity  $\alpha$  was evaluated from the stream of fast atoms generated during charge exchange between trapped ions, the authors of this paper measured directly the number of ions formed when a beam of neutral hydrogen atoms passes through a magnetic field. A strong magnetic field was produced by two copper solenoids with internal and external diameters of 5 and 22 cm respectively. The solenoids were cooled to low temperatures and supplied

Card 1/3

L 24047-56

ACC NR: AT6008842

0

by a battery of capacitors. The buildup time for a maximum field intensity of about 60 kilogauss in the center of the gap between the coils was 0.26 seconds. There was a 4.5% reduction in the field at a radius of 2.5 cm from the axis. The beam of neutral hydrogen atoms was produced by charge exchange between an ion beam and a supersonic jet of carbon dioxide frozen on a surface cooled by liquid hydrogen. The charge exchange target was 0.9 meters from the axis of the magnetic system. The fraction of the particles ionized in the central region of the field (with a radius of about 2.2 cm) was determined by simultaneously measuring the equivalent "current" of the neutral atoms and the ion current through the central collector (see figure) situated with respect to the beam and to the two other collectors (input and output) in such a way

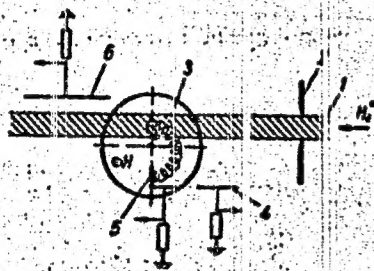


Diagram showing the location of the ion collectors in the magnetic field:  
1--beam of hydrogen atoms; 2--diaphragm; 3--central region of the field; 4--input collector; 5--central collector; 6--output collector

that all ions formed in this region are incident on the central collector due to azi-

Card 2/3

L 24047-16

ACC NR: AT6008842

0

muthal drift in the nonhomogeneous field only for the case of fields exceeding 25 kilogauss. In the case of weaker fields, some of the ions from the central region are incident on the input and output collectors and when the fields are still weaker (below 12-15 kilogauss) not one of the particles ionized in this region of the field can reach the central collector. A curve is given showing the fraction of atoms ionized in the central region of the field as a function of field intensity. A comparison between this curve and the data in the literature on ionization thresholds and regions for individual levels of the hydrogen atom with a given principal quantum number  $n$  shows that atoms with  $n = 9$  are ionized in magnetic fields ranging from approximately 32 to 51 kilogauss. Ionization of atoms with  $n = 8$  takes place in still stronger fields. Even in extremely strong fields,  $\alpha$  continues to grow rapidly with an increase in  $H$ . In some experiments the current through the output collector was much greater than could have been expected for residual gas ionization. This shows that a considerable number of hydrogen atoms may have been excited to levels which allowed them a mean free path of several centimeters in strong magnetic fields without ionization. Orig. art. has: 3 figures.

SUB CODE: 20/

SUBM DATE: 20 Oct 65/

ORIG REF: 004/

OTH REF: 005

Card 3/3 *da*

L 24051-6 ENT(d)/ENT(1)/ENP(m)/ENT(m)/SEC(h)-2/EPF(n)-2/EWA(d)/I/EWA(1)/ETC(m)-6

ACC NR: AT6008849

IJP(c)

JD/WM

GS/AT/GV

SOURCE CODE: UR/0000/65/000/000/0113/0115

AUTHOR: Luferov, V. B.; Kovalenko, V. A.; Skibenko, Ye. I.; Bugol, F. I.

ORG: none

TITLE: A supersonic hydrogen jet in a vacuumSOURCE: <sup>2/</sup>IN USSR. Magnitnyye lozushki (Magnetic traps). Kiev, Naukova dumka, 1965, 113-115

TOPIC TAGS: supersonic flow, hydrogen plasma, cryogenics, plasma jet, plasma physics, vacuum

<sup>2/</sup>ABSTRACT: Experiments are conducted on the use of cryogenic techniques for generating a supersonic jet of hydrogen on the basis of the successful use of similar techniques in generating supersonic gas jets of CO<sub>2</sub>, Ar and N<sub>2</sub>. The problem is complex from a technical standpoint since the surface on which the hydrogen condenses must be cooled by liquid helium. Preliminary experiments have shown that a hydrogen jet may be generated under conditions where the thermal load on the cooled surface is  $10^{-3}$ - $10^{-2}$  w/cm<sup>2</sup>. Thus even when the thermal loads are high, heat transfer between the liquid helium and the wall is sufficient for hydrogen evacuation. It was established that the optimum target thickness for a hydrogen ion energy of 25 kev is reached at a hydrogen flow rate of 45-50 cm<sup>3</sup>/sec. A curve is given showing the pressure in the charge exchange chamber as a function of the hydrogen flow rate. The pressure for

Card 1/2

L 24051-61

ACC NR: 776008849

hydrogen jet is more than an order of magnitude higher than in the case of carbon dioxide and argon jets. Special measurements showed that the reason for this is the considerable temperature drop between the liquid helium and the surface of the condenser. The experimental data show that a supersonic hydrogen jet may be used for charge exchange of intense ion beams in installations where a hot plasma is generated by injection of fast neutral hydrogen or deuterium atoms. Orig. art. has: 1 figure.

SUB CODE: 20/

SUBJ DATE: 200185/

ORIG REF: 005/

OTH REF: 001

Card 2/2 d/b

L 17037-36 ENT(1)/ENT(m)/EWP(t)/ETI EJP(c) AT/JD

ACC NR: AP6029801

SOURCE CODE: UR/0089/66/021/002/0130/0131

AUTHOR: Borovik, Ye. S. (deceased); Busol, F. I.; Glasov, B. V.; Kovalenko, V. A.; Skribenko, Ye. I.; Yuferov, V. B.

ORG: none

TITLE: VGL-2 cryogenic magnetic trap

SOURCE: Atomnaya energiya, v. 21, no. 2, 1966, 130-131

TOPIC TAGS: MAGNETIC TRAP DEVICE, magnetic trap, hydrogen plasma, deuterium, plasma heating, plasma injection, cryogenic liquid cooling/VGL-2 magnetic trap DEVICE

ABSTRACT: Since one of the means of producing a hot plasma is to inject intense beams of fast neutral hydrogen or deuterium atoms into a magnetic field, where they can be ionized, the authors describe the processes accompanying the filling of a small magnetic trap in which a strong magnetic field is produced. (Fig. 1) The trap differs from earlier designs in that the strong magnetic field up to (105 kG) is produced by a copper coil cooled with liquid nitrogen, which is also used to cool the outside of the vacuum chamber and thus permits a vacuum as low as  $\sim 5 \times 10^{-10}$  Torr to be maintained in it. An Ardenne type source is used for the hydrogen-ion beam, the charge exchange being in a supersonic  $\text{CO}_2$  stream condensed on a surface cooled to 20.4K. The fraction of the neutral beam ionized in the wording region of the chamber

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UDC: 533.9

L 47037-66

ACC NR: AP6029801

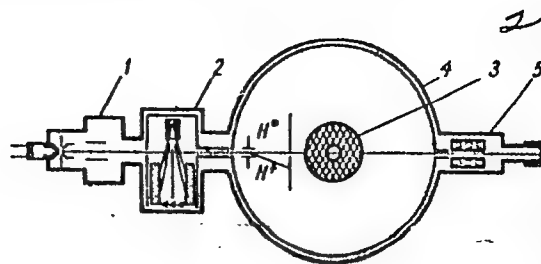
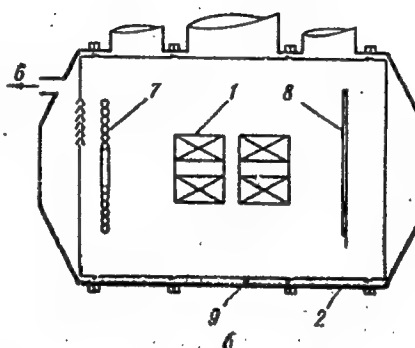


Fig. 1. Diagram of VGL-2 trap. a - section along beam axis, b - along field axis; 1 - ion source, 2 - charge exchange chamber, 3 - magnetic system, 4 - vacuum jacket, 5 - beam inlet, 6 - to pump, 7 - helium condensation pump, 8 - hydrogen pump, 9 - nitrogen screen

21



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L 47037-66

ACC NR: AP6029801

was of the order of  $5 \times 10^{-5}$ . The plasma density was determined from the intensity of flux of fast atoms leaving the plasma as a result of charge exchange between the ions and the residual gas, and also from the value of the injected current in the trap. The values obtained were  $\sim (3-4) \times 10^7$  and  $\sim 3 \times 10^8 \text{ cm}^{-3}$ , respectively, the difference being due to a small redistribution of the ion velocities in the plasma. Orig. art. has: 2 figures and 2 formulas [02]

SUB CODE: 20/ SUBM DATE: 01Apr66/ ORIG REF: 003/ OTH REF: 003 / ATD PRESS: 5089

*ms*  
Card 3/3

ACC NR: AR6034630 SOURCE CODE: UR/0270/66/000/008/0007/0007

AUTHOR: Kovalenko, V. A.

TITLE: Determination of an approximate azimuth from two observations of the same star

SOURCE: Ref. zh. Geodeziya, Abs. 8.52.56

REF SOURCE: Geod., kartogr. i aerofotos"yemka. Mezhd. resp. nauchno-tekhn. sb., vyp. 2, 1965, 19-23

TOPIC TAGS: theodolite, geodesy, azimuth, star, stellar observation

ABSTRACT: A method is described which consists of using a simple theodolite to make two altitudinal-azimuthal observations of an arbitrarily selected star before and after it crosses the meridian over a period of 1 to 1 1/2 hr. No astronomical yearbook or watch is required, and it is sufficient to know the latitude only approximately. The principle underlying the method, the sequence of observations, and the computation formulas are presented and discussed. An example is given of observation processing and azimuth computation. The pro-

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UDC: 523.283

ACC NR: AR 1034630

posed method makes it possible to determine the azimuth of a terrestrial object within an error of  $\sim \pm 1'$ . [Translation of abstract]

SUB CODES: 03, 08/

Card 2/2

and no respectively, ~~to the barometric coefficient~~ however, ~~very~~ speaking formula (1) is not precise. The fact is that the barometric effect consists of two parts: a) a negative absorption effect, characterizing the decay and absorption of the secondary component of cosmic rays in the atmosphere; b) a positive effect caused by the change of the

Card 1/2 APPROVED FOR RELEASE: 06/14/2000 CIA-RDP86-00513R000825520013-5" 0829 1778

ACC NR: AP7008936

generation of the secondary component. In general, the quantitative relation of these effects changes with a change of  $h$ . The barometric coefficient  $\beta$  is a function of  $h$  and is determined by the expression

$$dI/dh = \beta(h). \quad (2)$$

From (2), with the boundary condition  $I|_{h=h_0} = I_0$ , it follows

$$I = I_0 \exp \left[ \int_{h_0}^h \beta(h) dh \right] \quad (3)$$

Using  $\beta(h)$  (3) can be used for computing the anticipated changes  $I/I_0$  for different cutoff rigidities  $R$  when  $h_0 = 760$  mm Hg. These results for  $R = 3, 4.5, 6.4$  and  $9.5$  BeV are given in a table. For comparison the same table gives the predicted changes  $I/I_0$  for  $R = 3$  BeV, on the basis of formula (1) with constant  $\beta$  for  $h = h_0$ . The errors in this case for  $\Delta h = 10, 20, 30, 40, 50, 60$  mm Hg are 0.1, 0.2, 0.4, 0.7, 1.4 and 2.1%. These errors are rather large in comparison with the accuracy of recording the neutron component by modern instruments. Orig. art. has: 3 figures and 1 table. [JPRS: 38,677]

Card 2/2

ACC NR: AT0016819

(A)

SOURCE CODE: UR/0000/65/000/000/0148/0151

AUTHOR: Glebov, I. A.; Loginov, B. I.; Kovalenko, V. B.; Vadaturskiy, V. M.

ORG: none

TITLE: Results of an investigation of a contactless synchronous motor with rotating semiconductor rectifiers 29

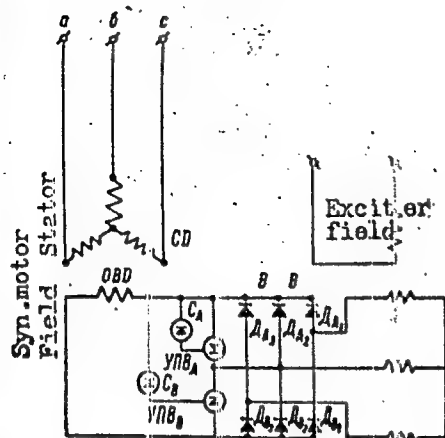
SOURCE: AN SSSR. Institut elektromekhaniki. Teoriya, raschet i issledovaniye vysokoispol'zovannykh elektricheskikh mashin (Theory, design, and research of electrical machinery in constant use). Moscow, Izd-vo Nauka, 1965, 148-151

TOPIC TAGS: synchronous motor, contactless synchronous motor, *electric motor, semiconductor rectifier*

ABSTRACT: A contactless excitation system intended for a 1000-kw, 6-kv, 113-amp, 750-rpm synchronous motor (whose field winding would be supplied by rotating semiconductor rectifiers) (see figure) was tested by IEM and TsKBKEM institutes. The fundamental difficulty with rectifier breakdown by overvoltages arising during the induction-type starting was overcome by introducing protective "tervit" resistors or silicon thyristors. During the starting period, the positive-half-cycle rotor current

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ACC NR: AT6016819



flows through the rectifiers and the negative-half-cycle current, through the thyristors. The motor behavior under such starting conditions was tested on an actual 1000-kw synchronous motor. Also, the exciter short-circuit through the thyristors at each negative half-cycle, during the pull-in period, was investigated and steps against this short-circuit were developed. A blueprint for the above special exciter was compiled. Orig. art. has: 1 figure and 1 table.

Contactless synchronous motor with rotating semiconductor rectifiers

SUB CODE: 09 / SUBM DATE: 04Aug65 / ORIG REF: 002

Card 2/2

L 45519-66 EWT(1) GD

ACC NR: AT6016820 (A) SOURCE CODE: UR/0000/65/000/000/0152/0161

AUTHOR: Glebov, I. A.; Brilliantov, L. B.; Vadaturskiy, V. M.; Kovalenko, V. B.

ORG: none

TITLE: Induction starting of contactless synchronous motors with rotating semi-conductor rectifiers 51  
50  
B+1

SOURCE: AN SSSR. Institut elektromekhaniki. Teoriya, raschet i issledovaniye vysokoispol'zovannykh elektricheskikh mashin (Theory, design, and research of electrical machinery in constant use). Moscow, Izd-vo Nauka, 1965, 152-161

TOPIC TAGS: synchronous motor, contactless synchronous motor, *electric motor, semiconductor rectifier, thyristor*

ABSTRACT: As considerable overvoltages arise across rectifiers during induction starting (M. P. Barret, RGE, 1961, no. 9), two methods are suggested for limiting these overvoltages: (1) Permanent shunting of the rotor winding by a linear or nonlinear resistor; the values of an ohmic resistor and a "tervit" varistor and losses incurred by them are calculated for a Soviet-made SDN-1000-750 synchronous motor; (2) Permanent shunting by thyristors (G. M. Rosenberry,

28 10  
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L 45519-66

ACC NR: AT6016820

Appl. and Ind., 1960, no. 49); this method was experimentally tested on an exciter model driven by a 30-kw synchronous motor ("Engineer L. M. Vaysman took part in the tests"). It is found that the second method has substantial advantages. However, the thyristors suffer overloads as a result of short-circuit conditions during the pull-in period. This necessitates some measures for limiting the short-circuit currents (such as reducing the exciter magnetic flux, inserting resistors into thyristor circuits, etc.). If the synchronous motor is started with the exciter field-circuit closed, the motor starting torque will be lower in the first method or the pull-in torque will be lower in the second method. Orig. art. has: 4 figures and 6 formulas.

SUB CODE: 09 / SUBM DATE: 04Aug65 / ORIG REF: 004 / OTH REF: 002

*ms*  
Card 2/2

AUTHOR: Kovalenko, V.D.

32-24-4-30/67

TITLE: ~~The Spectral Analysis of Copper-Manganese Alloys~~ (Spektral'nyy analiz mezhmargantsevykh ligatur)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 4, pp. 455-457 (USSR)

ABSTRACT: Investigations were carried out with the assistance of the laboratory worker R.F. Shlekhina. The possibility of applying an electric arc- as well as a spark-producing light source was investigated, and in both cases the method of three standard samples with a ISP-22 spectrograph with spherical condenser was used. In manganese analysis it was found that the alternating current electric arc has an insufficient concentration sensitivity and that manganese exercises considerable influence upon the iron spectral line. The excitation of a spark-exciting spectrum if a copper electrode is used requires at least 3-3.5 amperes, whereas in the case of iron- or nickel electrodes stability of discharge is attained also at amperages of less than 2 amperes. As with an increase of manganese concentration the intensity of lines in copper diminishes, a nickel electrode was used and work was carried out with 2 amperes.

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The Spectral Analysis of Copper-Manganese Alloys

32-24-4-30/67

In manganese concentrations of about 40% it was observed that a burning period of 10 minutes is the optimum, whereas for determination of iron only 1 minute was necessary. Exposure lasted 40 sec. The spectra were photometrized on a MF -2 microphotometer. No influence was found to be exercised by manganese on the determination of iron. From a given table the difference of results obtained by determinations carried out by the spectral- and by the chemical method may be seen. This is assumed to be caused by the insufficient accuracy of the latter method in which, when determining manganese, a difference of 1% was found in three samples and of 0.4% in the case of iron. The deviations of the two methods are, however, within the permitted error limits. The method described has been employed in industry for 2 years without any faulty analyses being noticed. There are 2 figures and 1 table.

ASSOCIATION: Kaluzhskiy turbinnyy zavod (Kaluga Turbine Plant)

1. Copper-manganese alloys-Spectrographic analysis 3. Electric discharges--Performance

Card 2/2

28(4)

AUTHORS:

(1) Petrov, I. K., (2) Kovalenko, V. D.

05735

SOV/32-25-10-24/63

TITLE:

News in Brief

PERIODICAL:

Zavodskaya laboratoriya, 1959, Vol 25, Nr 10, p 1215 (USSR)

ABSTRACT:

(1) The author suggests a method of determining the surface moisture which is based on a reduction of buoyancy of the sample in water. If on dipping the sample into water the whole moisture passes over into the water, the buoyancy will only depend on the weight of the sample itself (without surface moisture). Two variants of determination - a hydrometer method and a balance method - are described.

(2) The author reports on the preparation of standard samples of the Mts-2 alloy. The spectrum analysis is similar to the one described in: V. D. Kovalenko, Spectrographic Analysis of Bronze AZh 9-4, AMs 9-2, OF 10-1 and of Nickel Silver NMts 65-20, Material of the Tsentral'niy byuro nauchno-tekhnicheskoy informatsii tyazhologo mashinostroyeniya (Central Bureau of Scientific-technical Information of Heavy-duty Machine Construction) which paper is in the press now. The chemical

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News in Brief

05735

SOV/32-25-10-24/63

analysis of the standard samples is given (Table). The mean arithmetic error of determination is 7% for Mg, 8% for Si, and 2.5% for Ni. There are 1 table and 1 Soviet reference.

ASSOCIATION: (1) Kutaisskoye konstruktorskoye byuro "Proyektpribor"  
(Kutaisi Design Office "Proyektpribor")  
(2) Kaluzhskiy turbinnyy zavod (Kaluga Turbine Works)

Card 2/2

*KOVALENKO, V.D.*

DIMEZER, A.A.; DZYUBA, M.L.; BLINOV, L.F., kandidat sel'skokhozyaystvennykh nauk; BOLDIREV, N.E., kandidat pedagogicheskikh nauk; GAY-GULINA, Z.S., GRUDEV, D.I., kandidat sel'skokhozyaystvennykh nauk; DUBROV, Ya.G., professor; KOVALENKO, V.D., kandidat sel'skokhozyaystvennykh nauk; KRYSSINA, O.I.; KURKO, V.I.; LEVI M.F., kandidat sel'skokhozyaystvennykh nauk; MORDKOVICH, M.S.; POPOV, I.P., kandidat biologicheskikh nauk; SAGALOVICH, Ye.N., agronom; SILIN, V.N., zootekhnik; STRUTANSKIY, I.L., vrach; SUSHKOVA-LYAKHOVICH, M.L., kandidat meditsinskikh nauk; SHAPOVALOV, Ya.Ya., kandidat sel'skokhozyaystvennykh nauk; SHENIERETSKIY, E.I., kandidat sel'skokhozyaystvennykh nauk; YAVNEL', A.Yu., kandidat meditsinskikh nauk; RODINA, P.I., redaktor; YUOVITSKIY, Ye.I., redaktor; FEVZNER, V.I., tekhnicheskiy redaktor.

[Home economics] Demovodstvo. Moskva, Gos.izd-vo sel'khoz.lit-ry.  
1956. 479 p. (MIRA 10:5)

(Home economics)

KOVALENKO, V.D.

Photoelectric method for determining the rate of flow of underground waters toward separate wells. Geol.zhur. 22 no.2:109-111 '62.  
(MIRA 15:4)

1. Trest "Ukrgeofizrozvidka".  
(Water, Underground) (Photoelectric measurements)



KOVALENKO, V.D.

Photoelectric measurements in boreholes. Geofiz. sbor. no.3:73-80  
162. (MIRA 15:9)  
(Photoelectric measurements) (Water, Underground)

LAZAREVICH, L.P., dotsent; SHAPOSHNIKOV, Ye.A.; KOVALENKO, V.D.;  
IOSIFIDI, I.A.

Outpatient service for workers of the Krasnodar Worsted and Cloth  
Combine frequently suffering from angina. Nauch. trudy Kub. gos.  
med. inst. 19:19-28 '62. (MIRA 17:8)

1. Iz kafedry bolezney ukha, nosa i gortla (zaveduyushchiy -  
prof. V.K. Suprunov) i kafedry obshchey gigiyeny (zaveduyushchiy -  
zasl. deyatel' nauki Kirgizskoy SSR prof. F.S. Okolov) Kubanskogo  
gosudarstvennogo meditsinskogo instituta.

L 21822-56 EWP(j)/EWT(m)/ETC(m)-6/T IJP(c) RM/WW/GS

ACC NR: AT6006253

(A)

SOURCE CODE: UR/0000/65/000/000/0132/0136

AUTHOR: Mel'chenko, S. I.; Priz, M. N.; Shamrayev, G. M.; Zhadan, N. S.; Kovalenko, V. D.; Shantgay, T. G.

ORG: none

TITLE: Changes in physicomechanical properties of PNTs resins and glass textolites based on PNTs due to the influence of the atmosphere

SOURCE: AN USSR. Modifikatsiya svoystv polimerov i polimernykh materialov (Modification of the properties of polymers and polymeric materials). Kiev, Naukova dumka, 1965, 132-136

TOPIC TAGS: glass textolite, polymer, solid mechanical property, synthetic material, structural plastic

ABSTRACT: The changes in physicomechanical properties of unsaturated polyester PNTs-2E-6- and PNTs-2ED-6 resins and glass textolites based on these resins were investigated during their aging in natural and artificial atmospheres. The PNTs-2E-6 resin is based on ethylene glycol and the PNTs-2ED-6 resin is a mixture of

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L 2182-66

ACC NR: AT6006253

3

ethylene and diethylene glycol with maleic anhydride. The tests were conducted on samples composed of 100 parts of resin with 40 parts of styrene. They were set at room temperature from a mixture containing 3% isopropylbenzene hydroperoxide and 6% of 8% styrene solution of cobalt naphthenate. These samples were next held for 4 hours at 100°C. The aging tests were conducted by exposure to atmosphere from April to September 1964. The aged samples were then examined for Brinell hardness (GOST-4570-62), compression resistance (GOST 4651-63), twisting resistance (GOST-4648-63), and thermal stability according to Vik (GOST 9551-60). It was found that exposure to atmospheric conditions for 3.5 months resulted in very small change in physico-mechanical properties. The most loss (28%) in twisting resistance occurred the PNTs-2E resin. The glass textiles also suffered small losses in physico-mechanical indices after six months exposure to atmospheric aging conditions. The artificial aging conditions had an effect on the resin properties similar to that of the natural atmospheric conditions. Orig. art. has: 3 tables.

SUB CODE 11/ SUBM DATE: 00 Oct 65/ ORIG REF: 003/ OTH REF: 000

Card 2/2 net

KOVALENKO, V. E., kand. tekhn. nauk

Efficient method of reducing the heat resistance of  
incrustations in seawater evaporators. Trudy TSNIIMF  
no. 60:74-87 '54.

(MIRA 18:4)

KOVALENKO, V.P. (Kiyev)

Study of the control system of consumers for increasing the stability of a power system. Avtomatyka 9 no.6:60-63 '64.

(MIRA 18:1)

S/182/60/000/011/001/016  
A161/A029

AUTHORS: Perevozchikov, B.S., Kovalenko, V.F.

TITLE: Selection of Rational Hot Stamping Technology for Bevel Gears

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, 1960, No. 11, pp.1-6

TEXT: The ENIKMASH Institute has carried out experiments to select a suitable technology for automatic manufacture of bevel gears at a rate of 500,000 pieces annually. It is emphasized that the results cannot be applied to any other type and size of bevel gears than the type for which the investigation had been undertaken, namely the driven gear of the GAZ-51 (GAZ-51) automobile rear axle drive (Fig. 1). The following conditions had to be considered: 1) using latest equipment (universal if possible); 2) forgings must have preliminarily formed teeth; 3) the metal surplus on the forgings must be so placed as to make the gripping easy in the automatic transfer in the die impressions; 4) maximum possible automation (between-operations transportation, including automatic transfer from one impression to another). It was not possible to experiment with real-size forgings and the model blanks were 2.86 times smaller. The especially designed and Card 1/9



S/182/60/000/011/001/016  
A161/A029

# Selection of Rational Hot Stamping Technology for Bevel Gears

made die set (Fig. 3) has a bed plate (1), an exchangeable bed die (3) attached to the bed plate with a clamp ring (2), a rotary disk (4) attached to the top plate and bearing three punches. The disk is rotated by hand with a lever inserted into a hole and fixed with the pin (5). The stay (6) fixes the disk additionally during stamping. The punches move rapidly and the blank remains in one bed die. The toothed punches were made with a master tool on a K862C (K862S) press. A set of inserts with exchangeable and mobile elements was prepared for the final choice of the geometric die impression shape (Fig. 4) and lead was used for blank material. The compensator (space for surplus metal) selected finally is shown (Fig. 4,a). The work efforts necessary for real-size forgings were determined by calculation in accordance with the known law of similarity in the deformation of geometrically similar bodies. Calculated maximum efforts for the 2nd and 3rd stamping passes are shown in details (approximately for gears 184.7 mm in diameter made from 18X1T (18KhGT) steel. The efforts were measured at TsNITMASH during tests of hot crank presses. (The table

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A161/A029

### Selection of Rational Hot Stamping Technology for Bevel Gears

includes pressures for lead). The effect of uneven metal distribution in roughing die impressions due to inaccurate placement of the blanks was also investigated and a special device (Fig. 7) was designed for fixing the blank in accurate position until it enters the tapered impressions in the upsetting blocks (1). The device is attached to the die with stays (4). The grips (6) are spring-loaded with tension springs (2) in axial direction and compression springs (3) in vertical direction. The springs (3) work first in the upsetting process and the bushing (5) slides down together with the grips and the blank until the blank enters into the taper in the bottom block. Now the upsetting begins and the grips (6) spread pulling the springs (2). Upset blanks were removed from the device by hand. The device was designed having in view future automatic application. The 6,300-ton crank press K1017(KGShP) proved suitable for stamping the gears. It is recommended to heat the billet metal for cutting to 600°C in an induction furnace; to heat to forging temperature in a three-groove high-frequency induction heater; to use high annealing for heat treatment utilizing the forging heat(to place the hot forgings immediately after stamping Card 3/9

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A161/A029

#### Selection of Rational Hot Stamping Technology for Bevel Gears

into a furnace with 600-630°C and to hold for 2-2.5 hours and then to cool in air); and to remove scale by shot blasting. The following conclusions are drawn. Stamping of large forgings of similar shape can be recommended for application using four passes (see Fig. 2): 1) upsetting (with the blank fixed and supported in described device); 2) rough stamping; 3) final stamping; punching the hole. The best shapes for the die sort inserts are: 1) for upsetting - a tapered impression in the punch and a tapered cavity in the bed die for the fixing protrusion; 2) for rough stamping - a punch shape that ensures distribution of the major metal mass on the periphery with unrestricted flow upward of the forging "rim"; 3) for final stamping - a punch shape that insures complete forming of the forging without a periphery burr, the metal flowing into a central compensation cavity that has to be geometrically similar to the cavity chosen in experiments. It is mentioned that a stamping process for real-size gears has been developed after the experiments and decisions have been taken for an automatic process project. The following persons took part in the work: the engineers P.I. Strukov; I.I. Fuks; P.A. Petrov; F.S. Shteyn; T.I. Protopopova  
Card 4/9

S/182/60/000/011/001/016  
A161/A029

Selection of Rational Hot Stamping Technology for Bevel Gears  
and the laboratory worker A.V. Fursov. There are 7 figures.

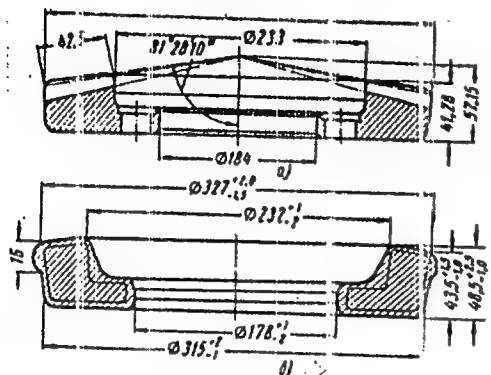


Figure 1:  
Card 5/9

S/182/60/000/011/010/016  
A161/A029

AUTHORS: Kovalenko, V.F., Sannikov, S.S., Strukov, P.I.

TITLE: Calibrating a 4,000-Ton NKMZ (NKMZ) Crank Hot-Stamping Press  
by the Crashers Method

PERIODICAL: Kuznechno-shvampovochnoye proizvodstvo, 1960, No. 11, pp.35-37

TEXT: Some foreign firms, as well as some Soviet plants have begun producing hot stamping presses of the crank type fitted with effort meters (the NKMZ in Kramatorsk, the ZTMP works in Voronezh). The meters have to be calibrated on site after installation of the press. A 4,000-ton press produced by the NKMZ has been calibrated at the Gor'kovskiy avtozavod (Gor'kiy Automobile Plant) with the assistance of ENIKMASH. Two NKMZ-made effort meters are placed on the front, one on each column. They are scale instruments (Fig. 1) recording the strain in the press stand that is directly proportional to the applied effort. The stand elongation is determined in a 466-mm section by an indicator (8) with 0.003 mm scale divisions and 0.05 mm measurement range. When the press is under load, the deformation in the stand pulls the rod (7) which is fixed in the top

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A161/A029

Calibrating a 4,000-Ton HKN3 (NKMZ) Crank Hot-Stamping Press by the  
Crashers Method

plank (5) and slides in a bore in the frame (11). The screw stop (12) on the rod (7) exerts pressure on the measuring leg of the indicator and makes the hand swing. The brake (9) of the leg (10) is loaded with a spring set on the rod (4) and adjusted by the plug (3). The brake holds the indicator hand on the scale division reached under load on the press. The brake must be retracted by the rod (4) to put the indicator to zero. Efforts corresponding to the indicator readings are given on the plate (1). As no loading device with 4,000-ton effort was available at the Gor'kiy Automobile Plant, the press had to be calibrated using the "metod kreshero" (crashers method). [Abstractor's note: The term "kresher" suggests English "crashing"]. A "crasher" is illustrated in Fig. 2 and is a block of 45 steel of cylindrical shape. The blocks were calculated for 500-ton pressure. They were placed on especially prepared die inserts (Fig. 4). The calibration results are given in Table 2. A diagram has been plotted from these data (Fig. 5). (It can be seen in the table that the left indicator gave lower readings, which was probably due to uneven tightening

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S/182/60/000/011/010/016  
A161/A029

Calibrating a 4,000-Ton HKM3 (NKMZ) Crank Hot-Stamping Press by the  
Crashers Method

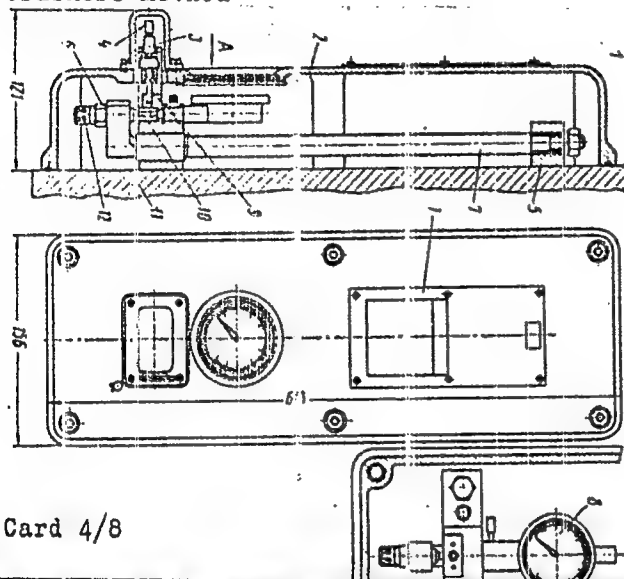
of the tie bolts on the left and right press stand side. The diagram was set up using the mean readings of two indicators). The arithmetic mean of the indicator readings had to be taken to determine the corresponding work pressure in the diagram. The data were filled into the table (1). It is mentioned that it would be better to use a diagram engraved on a metal sheet and that calibration must be repeated after retightening of the bolts. Some design deficiencies were revealed in the NKMZ indicators. An improved indicator design has been developed at ENIKMASH under supervision by Engineer L.P. Skipanov. [Abstractor's note: The new design is not described]. There are 5 figures.

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A161/A029

Calibrating a 4,000-Ton HKM3 (NKMZ) Crank Hot-Stamping Press by the  
Crashers Method

Fig. 1 - Effort indicator



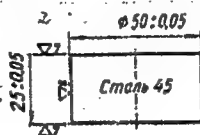
Card 4/8



S/182/60/000/011/010/016  
A161/A029

Calibrating a 4,000-Ton HKM3 (VKMZ) Crank Hot-Stamping Press by the  
Crashers Method

Fig. 2 - A "crasher"

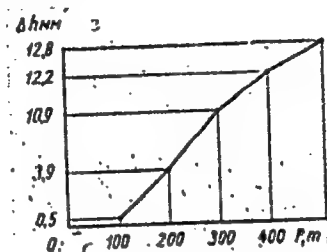


Card 5/8

S/182/60/000/011/010/016  
A161/A029

Calibrating a 4,000-Ton HKM: (NKMZ) Crank Hot-Stamping Press by the  
Crashers Method

Fig. 3 - Calibration diagram of the  
"crashers"



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S/182/60/000/011/010/016  
A161/A029

Calabrating a 4,000-Ton HKH3 (NKMZ) Crank Hot-Stamping Press by the  
Crashers Method

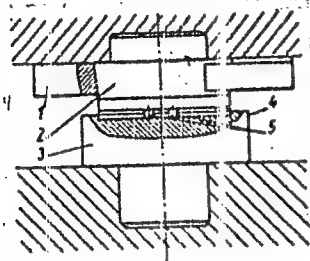


Fig. 4 --  
1- hold-down;  
2-top insert;  
3-bottom insert;  
4-retaining rim;  
5-crashers

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S/182/60/000/011/010/016  
A161/A029

Calibrating a 4,000-Ton HK 13 (NKM2) Crank Hot-Stamping Press by the  
Crashers Method

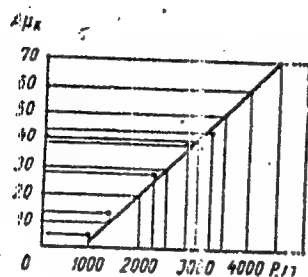


Fig. 5 - Diagram for determining efforts

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S/182/62/000/002/005/006  
D038/D112

AUTHORS: Sannikov, S.S. and Kovalenko, V.F.

TITLE: An automated die with a swing punch head for pressure forging

PERIODICAL: Kuznechno-shtampovochnoye proizvodstvo, no. 2, 1962, 34-37

TEXT: The authors describe the design and operation mode of an automatic die with a swing punch head which can be used in a 4000-ton hot stamping press for pressing circular forgings, requiring not more than four transfers in a single female die. The automatic die was developed by the ENIKMASH and built at the Gor'kovskiy avtomobil'nyy zavod (Gor'kiy Automobile Plant). Low-burr stamping using this die was described in an article by B.S. Perevozchikov, S.S. Sannikov and A.I. Pasmanik published in "Kuznechno-shtampovochnoye proizvodstvo", no. 6, 1961. The die has a swing disc equipped with three built-in punch holders which can swing through an angle of  $120^{\circ}$ , thus eliminating manual transfer from one die impression to another. The press can be operated automatically, semi-automatically and in two stages, when the press is operated by a pedal and the disc swing is controlled by a button. The die was tested under idle conditions and under load only by the

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S/182/62/000/002/005/006  
D036/D112

An automated die with .....

latter method, due to a defect in the control system of the press; in the tests 2 driven gears of the rear axle of the "Volga" and **GAZ-51** (GAZ-51) automobiles were forged. The tests were satisfactory and only minor defects were revealed. They showed that the upsetting die blocks could be dispensed within a three-pass press operation and that the upsetting operation could be transferred into the main female die by installing the upsetting die block in the third free position of the disc and improving the removal of scale from the main female die. After industrial tests and debugging, the new die can be recommended for mechanization pressure forging on 4000, 6300, and 8000-ton presses for forgings weighing up to 50 kg. B.S. Perevozchikov, V.F. Kovalenko, A.M. Korostelev, G.Ye. Tverdokskaya, V.P. Salov and P.I. Strukov participated in designing the die. B.S. Perevozchikov, S.S. Sannikov and T.I. Protopopova from the ENIKMASH, and A.I. Pasmanik, Yu.A. Bol'shakov, V.O. Korolev, G.N. Trostyanitsa, G.A. Troitskiy and I.I. Devyatov from the Gor'kiy Automobile Plant took part in the tooling and testing of the die. There are 3 figures and 1 Soviet-bloc reference.

Card 2/2

PEREVOZCHIKOV, B.S.; KOVALENKO, V.F.

Mechanization and automation of press forging operations. Kuz.-shtam.  
proizv. 5 no. 1138-42 Ag '63. (MIRA 16:9)

*KOVALENKO, V.F.*

KOVALENKO, V.F.

Magnetrony. Moskva, Sovetskoe radio, 1950.  
Title tr.: Magnetrons.

NCF

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.



*KOVALENKO, V. F.*

KOVALENKO, V.F.

Vvedenie v elektroniku sverkhvysokikh chastot. Tom I. Moskva,  
Sovetskoe radio, 1950.

Includes bibliographies.

Title tr.: Introduction to super-high-frequency electronics.

TK7872.V3K65

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of  
Congress, 1955.

KOVALENKO, V. P.

Vvedeniye v Elektroniku Sverkhvysokikh Chastot, 2, Publ. "Sovetskoye Radio.",  
124 pp., Moscow, 1951.

KOVALENKO, Vadim Fedorovich, KOKUSHKIN, A.A., redaktor; KORUZEV, N.N.,  
tekhnicheskiiy redaktor

[Introduction of superhigh frequency in electronics] Vvedenie v  
elektroniku sverkhvysokikh chastot. Izd. 2-oe. Moskva, Izd-vo  
"Sovetskoe radio," 1955. 343 p.[Microfilm] (MIRA 10:3)  
(Electron tubes)

KOWALENKO, Vadim Fedorovich

N/5  
650  
.K21

MIKROWELLENTECHNIK; EINFÜHRUNG IN DIE UHF ELEKTRONIK (VON) W.F. KOWALENKO.  
BERLIN, VERLAG TECHNIK, 1957.

369 P. ILLUS., DIAGS., TABLES.

TRANSLATED FROM THE ORIGINAL RUSSIAN: VVEDENIYE V ELEKTRIKU SVERKHVYSOKIM  
CHASTOT.

BIBLIOGRAPHY: P. 362-366.

KAMENETSKIY, F.M.; KOVALENKO, V.F.; YAKUBOVSKIY, Yu. V.

Two-frequency induction electric logging. Izv. vys. ucheb. zav.;  
geol. i razv.; 2 no.7:99-107 J1 '59 (MIRA 13:3)

1. Moskovskiy geologorazvedochnyy institut im. S. Ordzhonikidze.  
(Electric prospecting)

YAKUBOVSKIY, Yu.V.; KAUFMAN, A.A.; KOVALENKO, V.F.

Possibility of using the induction constant electromagnetic field method in prospecting for highly conductive ore bodies. Izv.vys.ucheb.zav.; geol.i razv. no.3: 119-128 My '60. (MIRA 13:7)

1. Moskovskiy geologorazvedochnyy institut im.  
S.Ordzhonikidze.  
(Electric prospecting)

KAMENETSKIY, F.M.; KOVALENKO, V.F.

Evaluation of the duration of primary field impulses during  
excitation of nonstationary eddy currents in prospecting for  
highly conductive ores. Izv. vys. ucheb. zav.; geol. i razv.  
3 no.6:92-94. Je '60. (MIRA 14:7)

1. Moskovskiy geologorazvedochnyy institut imeni S. Ordzhonikidze.  
(Electric prospecting) (Ore deposits)

KOVALENKO, V.F.

Recording transitional processes in pyrite deposit of the  
Southern Urals. Sov.geol. 4 no.6:89-101 Je '61. (MIRA 14:6)

1. Moskovskiy geolograzvedochnyy institut imeni S. Ordzhonikidze.  
(Ural Mountain region--Pyrites)  
(Electric prospecting)



S/169/62/000/007/074/149  
D228/D307

AUTHORS: Kamenetskiy, F. M. and Kovalenko, V. F.

TITLE: Quick-acting contactor to an electric prospecting station for operations by the method of transients

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 7, 1962, 33, abstract, 7A216 (V sb. Razved. i promysl. geofiz., no. 42, M., 1961, 48-54)

TEXT: The rate of breaking the current in the loop is of great significance in investigations of ore deposits by the method of field formation. The authors suggest that the electromechanical switch controlled by the relay unit should be modernized in order to increase the contactor's operating rate when the currents are high (50 amperes). The modernized switch's main features are the increased track over which the movable contacts run and the elimination of the antagonistic clamp springs. The suggested device accelerates the process of breaking the current in the circuit by ~3 times. [-Abstracter's note: Complete translation.]

Card 1/1

S/169/63/000/002/114/127  
D263/D307

AUTHOR: Kamenetskiy, J. M., Kovalenko, V. F.

TITLE: Some results of testing of the transient processes method (TPM)

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 2, 1963, 31, abstract 2D185 (Razvedka i okhrana nedr, 1962, no. 7, 35-38)

TEXT: A brief characteristic of the TPM is given, together with a description of its advantages over other electric prospecting methods in the search for well conducting ores. The main advantages of TPM are (1) recording of only the anomalous component of the field, (2) possibility of conducting the work in regions where the covering layers are thick and well conducting, (3) closer relationship between anomalous effects connected with well conducting ore deposits and caused by nonuniformities in covering layers and the surrounding rocks. It is shown that the possibilities of TPM w.r.t.

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Some results of testing ...

S/169/63/000/002/114/127  
D263/D307

resolution of anomalies caused by good and bad conductors are theoretically unlimited; in practice the method is limited by sensitivity of the recording apparatus, since fairly high ratios are reached at later times of the transient process, when the anomalous effects are negligible. Results are quoted of a trial of the method on one of the pyritic deposits of South Ural. The studied lenticular deposit was at a depth of 50 - 70 m, was ~250 m across and, on the average, ~12 m thick. The surrounding rocks were effusive quartzic keratophyres and their tufas. Field measurements were made with a model of the instrument, developed at MGRI, which allowed transition processes to be recorded at time intervals of up to 40 msec, in the presence of well conducting ores. Curves are given which show the distribution of amplitudes of the transition processes at various time intervals and their gradients; these indicate the desirability of using the method in prospecting. It is noted that the described example confirms the conclusions reached from modeling-theoretical studies, i.e. that study of the later stages of a transient process allows (under determined conditions) a considerable reduction of the influence of nonuniformities in enclosing

Card 2/3

Some results of testing ..

S/169/63/000/002/114/127  
D263/D307

rocks, and increases the depth to which the search is made. The example shows also the necessity of recording the earlier stages of the process in the case of geological charting to a fairly small depth. [Abstracter's note: Complete translation.]

Card 3/3

KOVALENKO, V. F.

Dissertation defended for the degree of Candidate of Technical Sciences  
at the Institute of Earth Physics imeno O. Yu. Shmidt in 1962:

"Development of Electrical Prospective of Pyritic Ores Using the Method  
of Transient Processes Under the Geoelectrical Conditions of the South  
Urals."

Vest. Akad. Nauk SSSR. No. 4, Moscow, 1963, pages 119-145

S/169/63/000/001/057/062  
D218/D307

AUTHORS: Kamenetskly, F.M. and Kovalenko, V.G.<sup>F</sup>  
TITLE: Nonsteady eddy currents in conducting covering deposits  
PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1963, 30, abstract D167 (Izv. vyssh. uchebn. zavedeniy. Geol. i razvedka, 1962, no. 4, 105-112)

TEXT: In order to estimate the effect of conducting covering deposits on the results of electrical logging involving the observation of transients (a modification of inductive electrical logging), an analysis was made of eddy currents induced in an infinite plate by a loop and an infinitely long cable. A theoretical calculation was completed and experiments were carried out on models. It was found that 5-6 msec after a step change in the primary field, the magnetic field due to the eddy currents reached  $\sim 1\%$  of its maximum value, i.e., practically disappeared.  
[Abstracter's note: Complete translation]

Card 1/1

KAMENETSKIY, F.M.; KOVALENKO, V.F.

Suppressing the noise of a commercial frequency when recording  
nonstationary electromagnetic fields. Razved. i prom. geofiz.  
no.51:102-106 '61. (MIRA 17:11)

L 22723-66 EWT(1) GV

ACC NR: AP6002918

(N)

SOURCE CODE: UR/0286/65/000/024/0082/0082

AUTHORS: Arst, G. A.; Kovalenko, V. F.; Kheyfits, V. Z.

14  
7

ORG: none

TITLE: Device for determining the slope of underwater surfaces of hydrotechnical structures. Class 42, No. 177,02 [announced by State Design Construction and Scientific Research Institute of Sea Transportation "Soyuzmorniprojekt" (Gosudarstvennyy proyektiro-konstruktorskiy i nauchno-issledovatel'skiy institut morskogo transporta "Soyuzmorniprojekt")]

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 24, 1965, 82

TOPIC TAGS: attitude measuring device, goniometer, pendulum, rotor, transducer

ABSTRACT: This Author Certificate presents a device for determining the slope of underwater surfaces of hydrotechnical structures, which includes gravitational pendulums mounted inside a hermetically sealed body and attached to the rotor axes of angle of rotation transducers. To increase the measuring accuracy, the gravitational pendulums are mounted at 90° to each other on a supporting platform perpendicular to their planes of rotation. The inside of the hermetically sealed body is filled with a damping fluid.

SUB CODE: 13/ SUBM DATE: 09Apr64

Card 1/1 CLR

UDC: 532.291.626.022



(14) L 12921-56 EWT(m)/ETC(F)/EWG(m) RM/DS  
ACC NR: AP6001014 SOURCE CODE: UR/0286/65/000/022/0089/0089  
AUTHOR: Kovalenko, V. F. 44,55 20  
ORG: none B  
TITLE: A method for obtaining fresh water. Class 65, No. 176505  
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 22, 1965, 89  
TOPIC TAGS: water desalting, desalting equipment  
ABSTRACT: This Author Certificate presents a method for desalting sea water in vacuum desalting plants. To increase the number of artificial steam-forming centers and to increase the productivity of evaporators, a stream of atmospheric air is injected into the heated brine. 1,44,55  
SUB CODE: 13/ SUBM DATE: 04Feb64

Card 1/1 NW

UDC: 629.12.06:66.047.3

ACCESSION NR: AP4029218

S/0114/64/000/004/0033/0036

AUTHOR: Toger, Ya. A. (Engineer); Kovalenko, V. F. (Engineer)

TITLE: Deep hole drilling in heat-resistant-steel parts

SOURCE: Energomashinostroyeniye, no. 4, 1964, 33-36

TOPIC TAGS: steel, heat resistant steel, drilling, hole drilling, heat resistant steel drilling

ABSTRACT: A new process for drilling 20-30-mm-diameter and up to 2,000-mm-deep holes in steam-turbine-housing studs made from austenitic steels or heat-resistant alloys is described. A special 2-cutting-edge internal-chip-removal drill (see Enclosure 1) was developed. The drill and its extension boring bars (up to 500-mm long each) are connected by double-thread unions. An interrupted drill feed is performed by a special "ball vibrator" which backs the work down from the drill every 240°, thus breaking the chip. A "Loewe" drilling machine was

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ACCESSION NR: AP4029218

modernized by equipping it with the "vibrator," drill water-cooling system, and a spring chuck for supporting the boring bar. Successful drilling is reported at cutting rates depending on the free chip removal from the boring-bar hollow and on the weight of the work. Orig. art. has: 6 figures and 1 table.

ASSOCIATION: Khar'kovskiy turbinnyy zavod im. S. M. Kirova (Khar'kov Turbine Plant)

SUBMITTED: 00

DATE ACQ: 01May64

ENCL: 01

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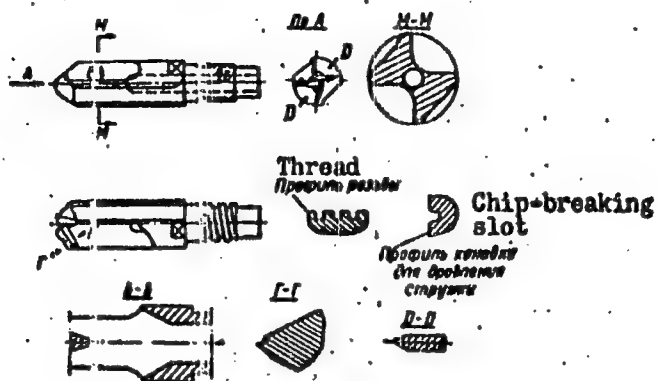
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Card 2/3

ACCESSION NR: AP4029218

ENCLOSURE: 01



Two-edge drill with internal chip removal

Card 3/3

KOVALENKO, V.F., inzh.

Hoisting machinery for use in the sinking of deep shafts. Shakht.  
strol. 8 no. 11:3-8 W '64. (MIRA 18:1)

1. Dongiprouglemash.

KOVALENKO, V.F., inzh.

Covered design of cables for mine hoisting machinery. Ugol' Ukr.  
5 no.7:26-27 J1 '61. (MIRA 15:1)

1. Dongiprouglemash.

(Hoisting machinery)

KOVALENKO, V.F., inzh.; PROTOPOVA, T.I., inzh.

Hydroblast cleaning of ingots from scale. [Nauk. trudy]  
ENIKMASHa 11:103-111 '65. (MIRA 18:6)

KOVALENKO, V. F.

KOVALENKO, V. F. --"Investigation of the Operation of Marine Evaporators." (Dissertations for Degrees in Science and Engineering Defended at USSR Higher Educational Institutions) Min of Higher Education, Odessa Polytechnic Inst, Odessa, 1955

SO: Knizhnaya Lotoriya, No. 25, 18 Jun 55

\* For Degree of Candidate in Technical Sciences



KOVALENKO, V. F.

124-11-12836

Translation from: Referativnyy Zhurnal, Mekhanika, 1957, Nr. 11, p. 76 (USSR)

AUTHOR: Kovalenko, V. F.

TITLE: Data on the Heat Transfer during the Boiling of Watery Solutions of Sodium Chloride and Sea Water. (Nekotoryye dannyye po issledovaniyu teplootdachi pri kipenii vodnykh rastvorov khloristogo natriya i morskoy vody)

PERIODICAL: Nauch. tr. Odessk. vyssh. morekhodn. uch-shcha, 1956, Nr 2, pp 57-66

ABSTRACT: Bibliographic entry.

Card 1/1

96-58-2-16/23

AUTHOR: Kovalenko, V.F., Candidate of Technical Sciences

TITLE: An Experimental Investigation of the Influence of Vibration on Heat Transfer During Boiling (Opytnoye issledovaniye vliyaniya vibratsii na teplootdachu pri kipenii)

PERIODICAL: Teploenergetika, 1958, No.2, pp. 76-77 (USSR)

ABSTRACT: The influence on heat transfer of vibration of the heating surface during the boiling of water at low and medium loads was investigated experimentally. The equipment, illustrated diagrammatically in Fig.1, includes a heating tube 250 mm long and 38 mm diameter, vibrated by an electric motor. Provisions were made for measuring heat transfer. The first series of tests was made on distilled water with the heating surface stationary. A graph relating the heat-transfer coefficient to the thermal loading of the heating surface appears in Fig. 2, Curve 1. Tests with a vibrating heating surface were made in the vibration frequency range of 700 - 3 000 per minute and with thermal loadings of 4 000 - 25 000 kcal/m<sup>2</sup>hour. The amplitude of vibrations ranged from 0.15 to 0.35 mm, depending on the frequency. The relationship between the heat-transfer coefficient and the thermal loading of the vibrating heating surface is plotted in Fig.2, Curve 2. Visual observations of boiling were also made. Although vibration made

Card 1/2

96-58-2-16/23

An Experimental Investigation of the Influence of Vibration on Heat Transfer During Boiling

some initial difference to the release of bubbles from the heating surface at low thermal loads, no difference could be observed with and without vibration at higher thermal loadings. The heat-transfer measurements gave much the same results and showed that vibration had no effect on the rate of heat transfer at thermal loadings higher than those necessary to cause moderate boiling.

There are 2 figures.

ASSOCIATION: Odessa Higher School of Navigation (Odesskoye vyssheye morekhodnoye uchilishche)

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Card 2/2

1. Heating elements-Vibration 2. Water-Boiling-Heat transfer

KOVALENKO, V., kand. tekhn. nauk, dots.

Results of testing condensers on the steamship "Nikolai Pirogov."  
Mor. flot 18 no. 6:17-19 Je '58. (MIRA 11:7)

1. Odesskoye vyssheye morekhodnoye uchilishche.  
(Condensers(Steam))-Testing)

KOVALENKO, V., kand. tekhn. nauk, dots.

Modernizing circulating-vacuum evaporators. Mor. flot 18 no. 9:15-16  
S '58. (MIRA 11:10)

1. Odesskoye voyenno-inzhenernoye morskoye uchilishche.  
(Boilers, Marine)

KOVALENKO, V. F.

"History of the Development of the Electron-Ray Tubes for Microwaves,"  
Izv. Ak. Nauk SSSR, Ser. Fiz., 4, No.3, 1940

KOVALENKO, V.F., kand. tekhn. nauk; LUKIN, G.Ya., kand. tekhn.  
nauk; ROGALEV, B.M., inzh.; MART'YANOVA, I.Ya., red.

[Water-softening equipment on seagoing ships] Vodo-  
opresnitel'nye ustanovki morskikh sudov. Moskva,  
Transport, 1964. 302 p. (MIRA 18:1)

KEVALENKO, V.F., in ch.

Pneumatic device for grinding steam turbine valve seats. Energo-  
mashinostrouenie 10 no.8:31-32 Ag '64. (MIRA 17:11)



KOVALENKO, V.F., ingh.

Device for stabilizing loading polyspasts. Stroi. i dor. mash. 10  
no.2:24 F '65. (MIRA 18:3)

KOVALENKO, V.G.

Materials on the venomousness of desert vipers. Trudy Inst.zool.  
AN Kazakh SSR 3:164-180 '55. (MLRA 9:12)  
(Kazakhstan--Serpents)

KOVALENKO, V.G.

Die-casting mold for molding plastic parts. Mashinostroitel' no.7:  
28 J1 '63. (MIRA 16:9)

(Plastics--Molding)

KOVALENKO, V.G.

Semiautomatic machine for clamp bending. Kuz.-shtam. proizv.  
5 no.9:4-44 S '63. (MIRA 16:11)

PAL'SHAU, M.V., kandidat tekhnicheskikh nauk.; KOVALENKO, V.G., assistant.

Determining the inertia moment of asynchronous engine rotors by means  
of "running out" method. Nauch. trudy NPI 26:363-367 '55. (MLRA 9:12)  
(Electric motors, Induction)

KOVALENKO, V G.

122-4-3/29

AUTHOR: Kupryashin, N.N., Candidate of Technical Sciences and  
Kovalenko, V.G., Candidate of Technical Sciences.

TITLE: The present state of the theory and methods of design of  
vortex pumps (Sovmennoe sostoyanie reorii i metodov  
rascheta vikhrevykh nasosov.)

PERIODICAL: "Vestnik Mashinostroeniya" (Engineering Journal), 1957,  
No.4, pp. 20 - 28 (U.S.S.R.)

ABSTRACT: The various names given to the vortex pump in world  
literature are compared. The name "Vortex" pump is consid-  
ered the most suitable, because it describes their principle  
of action. These centrifugal pumps with a lateral ring  
channel around the periphery are used mainly in the region of  
small specific speeds (4 - 50) where ordinary centrifugal  
pumps are inapplicable because of low efficiency, difficulty  
of manufacture, or absence of self-priming qualities. With  
the same impeller diameter and r.p.m. the vortex pump yields  
a head 3 - 5 times greater than the centrifugal pump. It is  
therefore used for high pressure (25 - 250 m) at comparative-  
ly low flows (2-60 m<sup>3</sup>/hr). Three types of vortex pumps are  
in use. In the first, the peripheral side channel is "blind"  
1/5 whilst the suction and pressure ports are at a radius smaller  
than the side channel. In the second and third types with a

The present state of the theory and methods of design of vortex pumps. (Cont.)

122-4-3/29

unilateral or bilateral open peripheral side channel the ports are situated directly at the beginning and the end of the channel, though sometimes the suction port is situated at a smaller radius. Only the first type of vortex pump possesses the property of self-priming. The theory of the vortex pump as developed by three Russian and two U.S.A. investigators is critically reviewed. B.I. Nakhodkin ("Investigation of the vortex pump in water". Dissertation, Moscow Power Institute, Moscow, 1951) visualised the vortex pump pressure consisting of the ordinary centrifugal pressure plus a vortex pressure resulting from the transfer of energy by the fast moving particles of liquid in the impeller cells to the slowly moving particles of liquid in the channel, this transfer being associated with the formation and decay of vortices in the working portion of the lateral channel.. No analytical theory of existing pumps has been developed, and the pressure coefficient as well as the various design parameters are found from graphs and tables. The American investigations by Iverson ("Performance of the periphery pump", Trans. ASME, Vol.77, No.1, 1955) and 2/5 Wilson (Santalo, M.A. and Oelrich, J.A. "A theory of the fluid - dynamic mechanism of regenerative pumps" Trans. ASME, Vol.77,

The present state of the theory and methods of design of vortex pumps. (Cont.)

122-4-3/29

No.8, 1955) are based on the hypothesis of an increased mass of liquid in the side channel owing to shear stresses which arise in the flow due to an interaction between the impeller and the liquid. They adopt the theory that the liquid particles in the side channel move along spiral (helical) trajectories. Their analytical formulae for the outlet pressure, power and efficiency are reproduced but are not considered practically usable. Design work, analysis of the working process, and tests carried out at the "Krasnyy Fakel" plant lead to the distinction between the main vortex and subsidiary vortices arising as a result of fluid flow around the vane edges, roughness, and other causes. In a correctly designed pump the main vortex should be predominant. The entrainment of the liquid mass by the impeller motion is accompanied by a partial or full decay of the vortices, their deformation or "shear". This vortex deformation or decay causes shear stresses in pumps with a lateral channel of semi-circular cross-section, vortices with an axis normal to this cross-section arise most easily and vortices with other axes are most likely to be suppressed, when the impeller blades are thin and their number is large. Following the senior author's dissertation (Kupryashin, N.N. "The hydrodynamics of the vortex pump"

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The present state of the theory and methods of design of vortex pumps. (Cont.)

122-4-3/29

Dissertation, Moscow Power Institute, Moscow, 1955) the theory of the pump is developed for a type of fluid motion described by a coil wrapped around a wheel. This one-dimensional theory, with the help of momentum equations is developed for an ideal fluid and leads to the basic equation of the vortex impeller from which the pressure developed can be determined in relation to all the design parameters of the wheel. Pressure-volume, power and efficiency graphs are reproduced for several Soviet designs and compared with calculated graphs from the formula, showing good agreement. Guidance for the application of vortex pumps is given as follows: liquid viscosity below 5° Engler, size of mechanical impurities up to 0.1 mm, head per impeller between 1 and 200 m, flow between 0.1 and 17 l/sec, maximum efficiency 45%, minimum weight per kW, 2 kg, speed up to 6 000 r.p.m. The determination of the main design parameter from the basic formula is discussed in detail. The cross-section of the side channel has a large effect on the properties of the pump. With increasing cross-sectional area, the pressure becomes smaller and the characteristic curve flatter. The effects of the number of blades, of an open or enclosed impeller design, of forward facing or backward facing blades are



KOVALENKO, V.G.

122-2-3/33

AUTHORS: Kovalenko, V.G. and Kupryashin, N.N., Candidates of Technical Sciences.

TITLE: Modern Designs of Vortex and Centrifugal-Vortex Pumps (Sovremennyye konstruktzii vikhrevykh i tsentrobezhno-vikhrevykh nasosov)

PERIODICAL: Vestnik Mashinostroyeniya, 1958, No.2, pp. 10-16 (USSR)

ABSTRACT: Enclosed vortex pumps were produced by Soviet industry in larger numbers than open vortex pumps, typical abroad. Enclosed pumps have a steeper pressure volume characteristic, better efficiency and stronger impeller vanes. Their greater susceptibility to cavitation has led to the development of centrifugal-vortex pumps with a centrifugal stage preceding the vortex stage. A typical design, designated UBC-53, is illustrated in cross-section and its cavitation properties are shown in a graph (Fig.2). The centrifugal stage permits a range of speeds up to 6 000 r.p.m. A series of sizes of single impeller, centrifugal-vortex pumps has been brought out for petrol engine driven pumping units. The provision of a self-priming device in the shape of a separating dome is illustrated (Fig.4) and discussed. The study of separating dome design has shown that an increase in dome size and the raising of the liquid level in it increase the intensity of suction. However,

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the pressure losses due to the sudden widening of the flow passage, a spiral outlet can be designed similar to that of centrifugal pumps. Further design ideas are discussed. The combination of a centrifugal and vortex wheel in parallel to

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Modern Designs of Vortex and Centrifugal-Vortex Pumps

achieve a self-priming pump is illustrated, but the series design is advocated. The design of a pump housing incorporating two suction and two pressure port (Fig. 13) is shown, which permits doubling the suction head. There are 13 figures and 3 Russian references.

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Card 3/3

NOVALENKO, V. G.

PLANE I BOOK EXPLANATION 507/5157

Donskoy, Ye. Ye., G.I. Karbach, and I.P. Lyalyuk, eds.

Mekhanizatsiya i avtomatizatsiya: sbornik statey ob arkhivirovaniyakh avtomatizatsii i avtomatizatsii na khar'kovskikh mashinostroyitel'nykh zavodakh (Mechanization and Automation: Collection of Articles on the Introduction of Mechanization and Automation in Khar'kov Machinery-Manufacturing Plants) [Khar'kov] Khar'kovskoye knizhnoye izd-vo, 1960. 375 p. 5,900 copies printed.

Editorial Board: S.A. Vorobyov, Candidate of Technical Sciences; Chairman of the Editorial Board; P.I. Zing's, Engineer; A.A. Koltov, Engineer; V.I. Kurovov, Engineer; A. Ye. Leonov, Doctor; A.I. Tupitsyn, Candidate of Technical Sciences; and S.M. Khvart, Candidate of Technical Sciences; Eds.: Ye. Ye. Donskoy, G.I. Karbach, and I.P. Lyalyuk; Tech. Ed.: M.I. Krasnova.

PURPOSE: This collection of articles is intended for technical and scientific personnel, outstanding workers, and stock workers of communist labor.

CONTENTS: The multifaceted experience of Khar'kov enterprises in the mechanization, automation, and improvement of manufacturing processes is generalized. The articles are devoted to the study of the problems of mechanization and automation, and attention is given to newly established enterprises, and to the introduction of telemechanics in the Khar'kov gas-system management. By including concrete examples and facts, the authors of the various articles attempt to demonstrate the achievements of the Khar'kov industrial complex in fulfilling the resolutions of the Central Committee of the CPSU, the Plenum of the Central Committee of the Communist Party of the Soviet Union, and the Party of the Soviet Union. There are no references.

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KOVALENKO, V.G.

Dies for trimming flats and dinking slots and holes.  
Mashinostroenie no.1:104-105 Ja-F '62. (MIRA 15:2)  
(Dies (Metalworking))

KOVALENKO, V.G.

Use of plastics in the manufacture of electric devices. Mashino-  
stroitel' no.5:14-15 My '62. (MIRA 15:5)  
(Kharkov--Electric instruments) (Plastics)

KOVALENKO, V. G.

Efficient metal layout. Mashinostroitel' no.10:28 0 '62.  
(MIRA 15:10)

(Laying out(Machine-shop practice))

KOVALENKO, V. G.

Unit for preparing water-emulsion varnish. Mashinostroitel'  
no.12:22 D '62. (MIRA 16:1)

(Varnish and varnishing)

KOVALENKO, V.G.

Automatic stamping press for manufacturing rings of a strip.  
Mashinostroitel' no.3:18 Mr '63. (MIRA 164)  
(Sheet-metal work)